9 February 1983

Paul,

Attached are NBPO comments on your 4 February draft memorandum regarding shortfall in generator capacity. If you have any questions
STAT regarding our comments, please contact [redacted] directly. We appreciate the opportunity to put in our two cents' worth.

1. Your draft states that the capacity has been reduced by 30%, and our calculations show a reduction of 20%. The difference is attributable to the use of .85 vs .95 of capacity and the use of five vs six generators. In this regard, you should be aware that the Load Management System is programmed to use between .95 and full (1.0) capacity. This decision was reached with full participation of FMD. We believe that use of .85 is too conservative, particularly when we do not currently have access to the seventh generator.

2. With respect to item three concerning capacities and load priorities, the following is offered:

a. All of the New Headquarters Building (NHB) loads are not energized before the Original Headquarters Building (OHB) loads are energized. The present load priority energizes only the North tower and computer spaces before the OHB. The South Tower of the NHB is energized after the OHB.

b. We disagree with the conclusion in the second paragraph of item three. You indicate in your draft that three megawatts of computer and emergency loads in the OHB would be without power. On 6
STAT February 1988, [redacted] took readings on the meters at the Central Plant for power being used and the following was noted:

	Megawatts
Emergency load for entire HQS complex	9.8
All other NHB loads not included in the 9.8 reading	1.5
Other Central Plant load	1.3
Other P&PD building load	.4
TOTAL Emergency Load	13.0

At this time, out of seven generators, one is down due to engine problems (#7). Therefore, with the six that are operational, the capacity that the load management sees is (6-1) (.95) (3.167) = 15.0 megawatts. Note that we are using a .95 safety factor which is what is presently programmed into the load management system. Therefore with 15.0 megawatts of capacity, and at this time of the year (when our loads are the lowest) with 13.0 megawatts of load we do not appear to be at an emergency point.

Your draft indicates that with loss of utility power Allied has been instructed to manually shed feeders 1N, 1E, 2N, 2E, 5N, 5E. It does not appear to be necessary with the current loads to turn off all NHB loads which includes the UPS feeders and computer rooms on the 1st, 2nd, and 3rd floors. As you are aware, OIT has moved some equipment into these areas. I believe they would be more than a little upset if they lost these computers so that you could provide power to non-essential areas of the OHB.

We agree that modifications should be made in the programming of the sequencing of loads within the load management system. We also agree that S&SSI should be asked to make modifications to the load management system itself.

STAT

P.S. - I had already pointed out that there are seven, not six generators (see para one of your draft.)

Attachment

STAT OL/NBPO: 9Feb88
Orig - Adse
1 - OL/NBPO Subject w/attachment
1 - OL/NBPO Chrono w/attachment

DRAFT

4 February 1988

STAT MEMORANDUM FOR: [redacted] Chief
Facilities Management Division, OL

STAT FROM: [redacted] Chief
Operations, FMD/OL

SUBJECT: Shortfall in Standby Generation Capacity for OHB Computer Centers

There are problems with the standby generation system that need to be solved quickly. The basic concerns are as follows:

1. One of the ~~six~~ Seven standby generators at the Central Plant has been inoperative since the project begin.

2. Due to the programming of the load management system, the generation system capacity has been reduced approximately 30% as a precaution against a total shutdown of the generation system under a turbine temperature overload condition.

3. With the load priorities established by the contract documents, all the New Building loads are brought on line before some of the computer centers and emergency loads in the Original Headquarters Building are programmed to be restored.

The load priorities presently programmed in the load management system will bring on approximately 13 megawatts of electrical load in the Central Plant, selected OHB areas and all NHB areas. This will leave approximately 3 megawatts of the computer center and emergency loads in the Original Headquarters Building without power. (See Appendix 1).

As a temporary procedure, Allied is required, upon loss of utility power, to take manual control of the load management system and manually shed feeders 1N, 2N, 1E, 2E, 5N, 5E or operate the system without the N-1 and .85 safety factor on. Both procedures are tricky, especially since a total the system test (Black Start) has never been performed and Allied still has no operating manuals for the systems.

The completion of the work on generator number 7 is required under the base contract, since it never was excepted by the Government. The reprogramming and modifications to the load management system to allow full utilization of the available Megawatt capacity is not specifically required under the contract and should be completed by FMD. A work order has been written to Allied to secure the service of S&SSI, to work with FMD and Allied to make the appropriate modifications.

3

SUBJECT: Shortfall in Standby Generation Capacity for OHB Computer Centers

4 February 1988

About 60% through the installation phase for the standby generator system, the prime contractor, MCI changed subcontractors from Williams & Lane, Inc., to Stuart and Stevens Service, Inc., (S&SSI). In the process of completing the work S&SSI made numberous modifications and system improvements on the load management system.

Due to the many modifications during the installation phase and the indepth technical knowledge of the load management system, it is imperative that S&SSI be used by FMD and Allied to complete the work on the load management system. They are also the only firm that can provide the Agency with accurate as-built wiring diagrams and system operating procedures.

STAT

cc:

APPENDIX 1

ELECTRICAL STANDBY GENERATION CAPACITY AND LOAD

1. GENERATION SYSTEM CAPACITY

6 units x 3.16 megawatts/units	=	18.96	megawatts
Minus 1 unit for (N-1)	=	3.16	megawatts
Total Available Capacity	=	15.9	megawatts
Safety Factor	=	.85	
ACTUAL CAPACITY	=	13.43	megawatts

2. EMERGENCY SYSTEM LOAD

Central Plant Load	=	5.5	megawatts
Partial OHB Computer Loads	=	3.5	megawatts
NHB Load	=	4.0	megawatts
Total	=	13.0	megawatts
Balance of OHB Computer and Emergency Load	=	3.0	megawatts
ACTUAL LOAD	=	16.0	megawatts